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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/783,057	02/20/2004	Tadayuki Fujiwara	NGB-15369	6775
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38210 Glenn Avenue				
WILLOUGHBY, OH 44094-7808			ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/783,057	FUJIWARA ET AL.	
	Examiner	Art Unit	
	JANET L. SUGLO	2857	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 04 March 2008.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-11 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-11 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 30 April 2004 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ . |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____. | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

Response to Amendment

1. The action is responsive to the Amendment filed on March 4, 2008. Claims 1-11 are pending. Claims 1 and 4 have been amended. Claims 6-11 are new.

2. The amendments filed March 4, 2008 are sufficient to overcome the prior 35 U.S.C. 112 rejections of claims 1-6.

Claim Objections

3. **Claim 8** is objected to because of the following informalities: Claim 8, line 4 currently states "plurality of lid crystal substrates" and should be replaced with --plurality of liquid crystal substrates--. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. **Claims 1-11** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. In **claim 1**, lines 8-9, Applicant claims, "acquire repair information indicative of a defect that is actually repaired." It is unclear how there can be a defect that is repaired.

It seems that if a defect is repaired then it is no longer a defect. It is unclear whether Applicant is trying to claim information on how to repair a certain type of defect or whether this information is about what repair operations have occurred. For the purpose of this Office Action it will be assumed that the repair information is any information regarding repair.

7. In **claim 1**, lines 15-16, Applicant claims, "said data management section is operable to redetermine at least one of the defect." It is unclear how a defect could be redetermined. Whether or not a defect is present could be redetermined, but the actual defect can not be redetermined. For example, if there is a process to determine whether there is a break in a window, it would not be said that the break is redetermined, but rather that whether or not the break is still present is redetermined. For the purpose of this Office Action it will be assumed that the determination is whether or not the panel or substrate is defective, which is currently claimed in lines 16-17 "whether the at least one of the panel and the substrate is defective" such that the "and" in line 16 separates the same phrase repeated.

8. In **claim 1**, line 16, Applicant claims "the defect" however it is unclear which defect is being referenced. Lines 4 and 8 both refer to "a defect" and it is assumed that each defect is different.

9. In **claim 1**, lines 11 and 17, Applicant claims "the defect information" however it is unclear what defect information is being referenced. Lines 4 and 5 have "defect information," lines 7-8 have "the defect information," and line 7 has "information

indicative of a defect." As it appears there are two different sets of defect information, it is unclear to what "the defect information" should refer.

10. In **claim 4**, lines 15-16, Applicant claims, "redetermining at least one of the defect." It is unclear how a defect could be redetermined. Whether or not a defect is present could be redetermined, but the actual defect can not be redetermined. For example, if there is a process to determine whether there is a break in a window, it would not be said that the break is redetermined, but rather that whether or not the break is still present is redetermined. For the purpose of this Office Action it will be assumed that the determination is whether or not the panel or substrate is defective, which is currently claimed in lines 13-14 "whether the at least one of the panel and the substrate is defective" such that the "and" in line 16 separates the same phrase repeated.

11. In **claim 6**, lines 3-6, Applicant claims "the defect information" however it is unclear what defect information is being referenced. Claim 1, lines 4 and 5, have "defect information," lines 7-8 have "the defect information," and claim 1, line 7, has "information indicative of a defect." As it appears there are two different sets of defect information, it is unclear to what "the defect information" should refer.

12. In **claim 6**, lines 4 and 5, Applicant claims "the defect" however it is unclear which defect is being referenced and whether the defect is the same or different for each reference. Claim 1, lines 4 and 8 both refer to "a defect" and it is assumed that each defect is different.

13. In **claim 8**, line 5, Applicant claims "the defect information" however it is unclear what defect information is being referenced. Claim 1, lines 4 and 5, have "defect information," lines 7-8 have "the defect information," and claim 1, line 7, has "information indicative of a defect." As it appears there are two different sets of defect information, it is unclear to what "the defect information" should refer.

14. In **claim 9**, applicant claims "the defect" twice making it unclear whether there is one or more defect being claimed. One of the defects is "indicated by the repair information," however, claim 4, from which claim 9 depends, states in lines 6-7, "repair information indicative of at least a position that is actually repaired." As a result claim 4 only states that the repair information refers to a position, not a defect. As a result, claim 9 is unclear as to what defect is being referenced.

15. **Claims 2, 3, and 7** are rejected under 35 U.S.C. 112, second paragraph, because they incorporate the lack of clarity present in parent claim 1.

16. **Claims 5, 10, and 11** are rejected under 35 U.S.C. 112, second paragraph, because they incorporate the lack of clarity present in parent claim 4.

Claim Rejections - 35 USC § 102

17. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

18. **Claims 1, 4, 6, 7, 9 and 10** are rejected under 35 U.S.C. 102(a) as being anticipated by Lee et al. (US Patent 6,473,664) (hereinafter “Lee”).

With respect to **claim 1**, Lee teaches an apparatus for managing a liquid crystal substrate (col 1, ln 10-12) comprising:

a liquid crystal testing device operable to determine whether at least one of a panel (col 11, ln 42) and a substrate (col 3, ln 1-2) in the liquid crystal substrate has a defect (col 7, ln 47-55), and acquire defect information indicative of at least the defect and whether the at least one of the panel and the substrate is defective (col 3, ln 41-52; col 9, ln 55-65);

a liquid crystal repair device operable to repair the defect based on the defect information (col 5, ln 46-55; col 7, ln 47-55), and acquire repair information indicative of a defect that is actually repaired (Figures 4 and 5; col 6, ln 5-21; col 7, ln 47-55); and

a data management section having a database adapted to record the defect information which is acquired from the liquid crystal testing device (e.g., Host, File Server) (Figure 4: 100, 110; col 9, ln 55-65), and the repair information (col 5, ln 50-55) which is acquired from the liquid crystal repair device (col 5, ln 50-55), wherein

said data management section is operable to redetermine at least one of the defect and whether the at least one of the panel and the substrate is defective, based on the defect information (col 10, ln 1-16) and the repair information which are recorded in said database (Figure 4: 100, 110; Figure 5; col 2, ln 44-58; col 5, ln 50-55, col 7, ln 46-55; col 9, ln 55-65. Lee states in the previous passages that each machine shares

the job result data of the previous machine. As he describes the second machine as a repair machine, the repair information is being passed to the second machine to be manipulated again.).

With respect to **claim 4**, Lee teaches a method for managing a liquid crystal substrate (col 1, ln 10-12) comprising:

determining whether at least one of a panel (col 11, ln 42) and a substrate (col 3, ln 1-2) in the liquid crystal substrate has a defect (col 7, ln 47-55), and acquire defect information indicative of at least the defect and whether the at least one of the panel and the substrate is defective (col 3, ln 41-52; col 9, ln 55-65);

repairing the defect based on the defect information (col 5, ln 46-55; col 7, ln 47-55), and acquires repair information indicative of at least a position that is actually repaired (Figures 4 and 5; col 6, ln 5-21; col 7, ln 47-55);

recording, in a database, the defect information which is acquired from the liquid crystal testing device (Figure 4: 100, 110; col 9, ln 55-65), and the repair information (col 5, ln 50-55) which is acquired from the liquid crystal repair device (col 5, ln 50-55); and

redetermining at least one of the defect and whether the at least one of the panel and the substrate is defective (col 2, ln 44-58), based on the defect information (col 10, ln 1-16), and the repair information which are recorded in the database (Figure 4: 100, 110; col 5, ln 50-55, col 9, ln 55-65; Lee states in the previous passages that each machine shares the job result data of the previous machine. As he describes the

second machine as a repair machine, the repair information is being passed to the second machine to be manipulated again.).

With respect to **claim 6**, Lee teaches said liquid crystal repair device is operable to correct the defect information to generate corrected defect information when the defect indicated by the defect information is different from the defect indicated by the repair information (Each process causes both raw data and summary data to be saved; col 5, ln 51-59; col 6, ln 42-48; col 8, ln 51 – col 9, ln 10); and

said data management section is operable to update the defect information recorded in said database with the corrected defect information (col 5, ln 51-59; col 6, ln 42-48; col 8, ln 51 – col 9, ln 10; col 9, ln 55-65).

With respect to **claim 7**, Lee teaches the repair information includes image information of a part of the at least one of the panel and the substrate that is actually repaired (col 5, ln 18-28; col 6, ln 43-47).

With respect to **claim 9**, Lee teaches correcting the defect information to generate corrected defect information when the defect indicated by the defect information is different from the defect indicated by the repair information (Each process causes both raw data and summary data to be saved; col 5, ln 51-59; col 6, ln 42-48; col 8, ln 51 – col 9, ln 10); and

updating the defect information recorded in said database with the corrected defect information (col 5, ln 51-59; col 6, ln 42-48; col 8, ln 51 – col 9, ln 10; col 9, ln 55-65).

With respect to **claim 10**, Lee teaches the repair information includes image information of a part of the at least one of the panel and the substrate that is actually repaired (col 5, ln 18-28; col 6, ln 43-47).

Claim Rejections - 35 USC § 103

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

20. **Claims 2, 3 and 5** are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee in view of Miura et al. (US Patent 6,282,457) (hereinafter “Miura”).

With respect to **claim 2**, Lee further teaches said data management section stores a recipe information for defining specifications of the substrate and panel in said database (Lee: col 8, ln 64 - col 9, ln 6). Lee further teaches that the user inputs necessary data when data is processed abnormally (Lee: col 10, ln 17-20). Lee does

not specify that said recipe information is edited freely. Miura teaches a method and apparatus for processing liquid crystal panel substrates (Miura: col 13, ln 20-22) including adjusting or finely modifying the recipes. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Lee to include the recipe modifications of Miura because this ensures an optimal exposure recipe resulting in more efficient processing (Miura: col 2, ln 59-62; col 12, ln 46-47).

With respect to **claim 3**, Lee further teaches a terminal connected to the data management system where a user can input information (Lee: col 10, ln 17-20). Lee does not teach that the data management section edits the recipe information by exchange of information with the terminal. Miura teaches a method and apparatus for processing liquid crystal panel substrates (Miura: col 13, ln 20-22) including adjusting or finely modifying the recipes. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Lee to include the recipe modifications of Miura because this ensures an optimal exposure recipe resulting in more efficient processing (Miura: col 2, ln 59-62; col 12, ln 46-47).

With respect to **claim 5**, Lee further teaches recording a recipe information acquired from the liquid crystal testing device in the database, the recipe information defining specifications of the substrate and panel (Lee: col 8, ln 64 - col 9, ln 6). Lee further teaches that the user inputs necessary data when data is processed abnormally (Lee: col 10, ln 17-20). Miura teaches a method and apparatus for processing liquid

crystal panel substrates (Miura: col 13, ln 20-22) including adjusting or finely modifying the recipes. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Lee to include the recipe modifications of Miura because this ensures an optimal exposure recipe resulting in more efficient processing (Miura: col 2, ln 59-62; col 12, ln 46-47).

21. **Claims 8 and 11** are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee in view of Hiroi et al. (US PGPub 2003/0063792) (hereinafter “Hiroi”).

With respect to **claim 8**, Lee teaches all limitations of parent claim 1 and further teaches that various statistical processes are carried out on the raw and summary data of the liquid crystal substrates (Lee: col 6, ln 39-41; col 7, ln 30-34; col 11, ln 20-24; col 11, ln 50-54) with respect to the defect information and the repair information (Lee: col 5, ln 46-55; col 6, ln 40-47; col 7, ln 46-55; col 11, ln 48-54). Hiroi teaches acquiring trend information for defects of a plurality of liquid crystal substrates (Hiroi: Abstract; Figure 5; [0013], [0019], [0034]). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Lee to include the trend analysis of Hiroi because trend data allows defect analysis to be utilized effectively and thereby saving processing time and money (Hiroi: [0034]).

With respect to **claim 11**, Lee teaches all limitations of parent claim 4 and further teaches that various statistical processes are carried out on the raw and summary data

of the liquid crystal substrates (Lee: col 6, ln 39-41; col 7, ln 30-34; col 11, ln 20-24; col 11, ln 50-54) with respect to the defect information and the repair information (Lee: col 5, ln 46-55; col 6, ln 40-47; col 7, ln 46-55; col 11, ln 48-54). Hiroi teaches acquiring trend information for defects of a plurality of liquid crystal substrates (Hiroi: Abstract; Figure 5; [0013], [0019], [0034]). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Lee to include the trend analysis of Hiroi because trend data allows defect analysis to be utilized effectively and thereby saving processing time and money (Hiroi: [0034]).

Response to Arguments

22. Applicant's arguments filed March 4, 2008 have been fully considered but they are not persuasive.

Applicant argues the Lee does not teach redetermination of "at least one of the defect and whether the at least one of the panel and the substrate is defective, based on the defect information and the repair information which are recorded in said database"; however, Applicant's arguments are not well taken. As described in the above rejections, it is unclear how a defect can be redetermined. Whether the defect is present can be redetermined. Whether the defect has changed positions can be redetermined. The size of the defect can be redetermined. The defect itself cannot be redetermined. Lee explains in column 8, lines 11-19 that the host contains a database where it manages the whole assembly line (containing both testers and repairers)

including job result data. There is further a file server which receives summary data from both the tester and the repairer (Lee: Figure 5; col 7, ln 46-55). The claimed data management section can be made up of the host, database, file server, and any other section of Lee that is known to manage data. As stated above, Lee teaches said data management section is operable to redetermine at least one of the defect and whether the at least one of the panel and the substrate is defective, based on the defect information (col 10, ln 1-16) and the repair information which are recorded in said database (Figure 4: 100, 110; Figure 5; col 2, ln 44-58; col 5, ln 50-55, col 7, ln 46-55; col 9, ln 55-65. Lee states in the previous passages that each machine shares the job result data of the previous machine. As he describes the second machine as a repair machine, the repair information is being passed to the second machine to be manipulated again.).

Applicant argues the Miura does not teach redetermination of “at least one of the defect and whether the at least one of the panel and the substrate is defective, based on the defect information and the repair information which are recorded in said database”; however, Applicant’s arguments are not well taken. Lee is relied upon to teach the above limitations as is shown above.

Conclusion

23. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JANET L. SUGLO whose telephone number is (571)272-8584. The examiner can normally be reached on Mon, Wed, Thur, Fri from 6:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eliseo Ramos-Feliciano can be reached on 571-272-7925. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JANET L SUGLO/
Examiner, Art Unit 2857

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